Gunter, Jason

From:

Nations, Mark [mnations@doerun.com] Thursday, October 10, 2013 10:32 PM

Sent: To:

Gunter, Jason

Cc:

England, Jason; Yingling, Mark; Wohl, Matthew; 'Kevin Lombardozzi' (kevinl@VALHI.NET);

martin.kator@dnr.mo.gov; 'Matt Whitwell' (mwhitwell@i1.net); robert.hinkson@dnr.mo.gov;

Norman Lucas (cityhall@i1.net); Ty Morris (TMorris@barr.com)

Subject:

National Progress Report

Attachments:

NATL 09-13.doc; 2013-09-25 National UAO Pace Lab Report.pdf

Jason,

Attached is the September 2013 Progress Report.

Mark

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OUDZ



Remediation Group

Mark Nations
Mining Properties Manager
mnations@doerun.com

October 11, 2013

Mr. Jason Gunter Remedial Project Manager U.S. Environmental Protection Agency Region 7 - Superfund Branch 11201 Renner Blvd. Lenexa, KS 66219

Re: National Mine Tailings Site Progress Report

Dear Mr. Gunter:

As required by Article VI, Section 51 of the Unilateral Administrative Order (Docket No.CERCLA-07-2006-0231) for the referenced project and on behalf of The Doe Run Company and NL Industries, Inc., the progress report for the period September 1, 2013 through September 30, 2013 is enclosed. If you have any questions or comments, please call me 573-518-0800.

Sincerely,

Mark Nations

Mining Properties Manager

mad nation

Enclosure

c: Jason England - TDRC

Mark Yingling – TDRC (electronic only)

Matt Wohl – TDRC (electronic only)

Kevin Lombardozzi – NL Industries, Inc.

Matt Whitwell - City of Park Hills

Norm Lucas - Park Hills - Leadington Chamber of Commerce

Robert Hinkson - MDNR

Ty Morris - Barr Engineering

National Mine Tailings Site

Park Hills, Missouri

Removal Action - Monthly Progress Report

Period: September 1, 2013 - September 30, 2013

1. Actions Performed and Problems Encountered This Period:

- a. Barr and Doe Run staff continued to work with the landowners to determine the best way to access the mine shaft located in the Mine Shaft Area, as well as to verify who owns the property where the mine shaft is located.
- b. Work continued on the development of the Removal Action Report.

2. Analytical Data and Results Received This Period:

- a. During this period, water samples were collected at the sampling locations identified in Appendix C of the Removal Action Work Plan where water was present. Copies of the analytical results from the last sampling event are included with this progress report.
- b. During this period, the Ambient Air Monitoring Reports for June 2013 and Second Quarter 2013 were completed. Any issues identified in these reports are discussed below. A copy of these documents has been sent to your attention.

The June 2013 Ambient Air Monitoring Report noted the following:

- The action levels for lead and dust were not exceeded.
- No samples were taken with the TSP monitors on 06/06/13 due to training.
- The sample for National #2 (soccer field) PM₁₀ monitor on 06/09/13 was invalid due to a mechanical failure. Upon discovering the mechanical failure, the issue was addressed.
- A QA filter blank was run on the National #2 (soccer field) TSP and PM₁₀ monitors on 06/20/13.

The Second Quarter 2013 Ambient Air Monitoring Report noted the following:

- The action levels for lead and dust were not exceeded.
- The sample for National #2 (soccer field) monitor on 04/19/13 was invalid due to a mechanical failure. Upon discovering the mechanical failure, the issue was addressed.
- No samples were taken with the TSP monitors on 05/27/13 due to the holiday.
- No samples were taken with the PM_{10} monitors on 05/28/13 due to the holiday.
- No samples were taken with the TSP monitors on 06/06/13 due to training.
- The sample for National #2 (soccer field) PM₁₀ monitor on 06/09/13 was invalid due to a
 mechanical failure. Upon discovering the mechanical failure, the issue was addressed.
- A QA filter blank was run on the National #2 (soccer field) TSP and PM₁₀ monitors on 06/20/13.

3. Developments Anticipated and Work Scheduled for Next Period:

- a. Complete rehabilitation activities on the mine shaft located in the Mine Shaft Area.
- b. Continue developing the Removal Action Report.
- c. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- d. Complete air monitoring activities as described in the Removal Action Work Plan.

4. Changes in Personnel:

a. Jason England has temporarily been reassigned to another position within Doe Run. While he is on this assignment, he will not be very involved with the work at this site. Genevieve Bodnar, an

National Mine Tailings Site – Monthly Progress Report Period: September 1, 2013 – September 30, 2013 Page 2

environmental engineer in Doe Run's mining division, will be providing support to the remediation crew on an as needed basis during Jason's absence. Mark Nations will continue in his existing role and will be the primary contact for the work at this site.

- 5. Issues or Problems Arising This Period:
 - a. None.
- 6. Resolution of Issues or Problems Arising This Period:
 - a. None.





October 03, 2013

Amy Sanders The Doe Run Company P. O. Box 500 Viburnum, MO 65566

RE: Project: NATIONAL UAO (NATIONAL)

Pace Project No.: 60154033

Dear Amy Sanders:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church

jamie.church@pacelabs.com Project Manager

Enclosures





Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 (913)599-5665

CERTIFICATIONS

Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219 WY STR Certification #: 2456.01 Arkansas Certification #: 13-012-0 Illinois Certification #: 003097 Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055 Nevada Certification #: KS000212008A

Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-13-4 Utah Certification #: KS000212013-3

Illinois Certification #: 003097

Dallas Certification IDs

400 West Bethany Dr Suite 190 75013 Allen TX 75013 Texas Certification #: T104704232-13-5

Kansas Certification #: E-10388

Arkansas Certification #: 88-0647 Oklahoma Certification #: 2012-080 Louisiana Certification #: 02007





SAMPLE SUMMARY

Project:

NATIONAL UAO (NATIONAL)

Pace Project No.: 60154033

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154033001	10446/NAT NE	Water	09/25/13 11:26	09/26/13 08:10



SAMPLE ANALYTE COUNT

Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60154033001	10446/NAT NE	EPA 200.7	NDJ	3	PASI-K
		EPA 200.8	SMW	3	PASI-K
		EPA 200.8	SMW	3	PASI-K
		SM 2540C	RAH	1	PASI-K
		SM 2540D	RAH	1	PASI-K
		SM 2540F	JML	1	PASI-K
		SM 4500-H+B	DJR	1	PASI-K
		EPA 300.0	OL	1	PASI-K
		SM 5310C	MCP	1	PASI-D



ANALYTICAL RESULTS

Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

Date: 10/03/2013 02:06 PM

60154033

Sample: 10446/NAT NE	Lab ID: 6015403300	01 Collected	: 09/25/13	3 11:26	Received: 09/	26/13 08:10 Ma	atrix: Water	
		Report						
Parameters	Results Units	Limit	MDL .	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA	A 200.7 Prepai	ation Meth	od: EP	A 200.7			
Calcium	113000 ug/L	100	10.4	1	09/29/13 13:42	09/30/13 16:53	7440-70-2	
Magnesium	60700 ug/L	50.0	6.5	1	09/29/13 13:42		7439-95-4	
Total Hardness by 2340B	533000 ug/L	500		1	09/29/13 13:42	09/30/13 16:53		
200.8 MET ICPMS	Analytical Method: EP/	4 200.8 Prepai	ation Meth	od: EP	A 200.8			
Cadmium	0.46J ug/L	0.50	0.050	1	09/29/13 13:42	10/01/13 14:38	7440-43-9	В
Lead	6.3 ug/L	1.0	0.030	1	09/29/13 13:42	10/01/13 14:38	7439-92-1	
Zinc	191 ug/L	10.0	1.0	1	09/29/13 13:42	10/01/13 14:38	7440-66-6	
200.8 ICPMS, Dissolved (LF)	Analytical Method: EPA	4 200.8 Prepai	ation Meth	od: EP	A 200.8			
Cadmium, Dissolved	0.16J ug/L	0.50	0.050	1	09/30/13 17:10	10/01/13 16:23	7440-43-9	В
Lead, Dissolved	3.7 ug/L	1.0	0.030	1	09/30/13 17:10	10/01/13 16:23		
Zinc, Dissolved	159 ug/L	10.0	1.0	1	09/30/13 17:10	10/01/13 16:23	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM	2540C						
Total Dissolved Solids	705 mg/L	5.0	5.0	1		10/01/13 15:14		
2540D Total Suspended Solids	Analytical Method: SM	2540D						
Total Suspended Solids	8.0 mg/L	5.0	5.0	1		09/30/13 11:22		
2540F Total Settleable Solids	Analytical Method: SM	2540F						
Total Settleable Solids	ND mL/L/hr	0.20	0.20	1		09/26/13 16:30		
4500H+ pH, Electrometric	Analytical Method: SM	4500-H+B				•		
pH at 25 Degrees C	8.2 Std. Units	0.10	0.10	1		10/01/13 13:10		H6
300.0 IC Anions 28 Days	Analytical Method: EPA	A 300.0						
Sulfate	254 mg/L	20.0	3.2	20		10/02/13 23:39	14808-79-8	
5310C TOC	Analytical Method: SM	5310C						
Total Organic Carbon	0.86 mg/L	0.50		1		10/03/13 11:01	7440-44-0	
-	-							





Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

QC Batch:

MPRP/24477

Analysis Method:

EPA 200.7

QC Batch Method:

EPA 200.7

Analysis Description:

200.7 Metals, Total

Associated Lab Samples:

METHOD BLANK: 1262582

Matrix: Water

Associated Lab Samples:

Date: 10/03/2013 02:06 PM

60154033001

60154033001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	ug/L	ND	100	09/30/13 16:28	
Magnesium	ug/L	ND	50.0	09/30/13 16:28	
Total Hardness by 2340B	ug/L	ND	500	09/30/13 16:28	

LABORATORY CONTROL SAMPLE

LABORATORY CONTROL SAMPLE	1202583					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Calcium	ug/L	10000	10100	101	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Total Hardness by 2340B	ug/L		67000			

MATRIX SPIKE & MATRIX SI	PIKE DUPLICAT	E: 12625	84		1262585							
Parameter	60 [.] Units	153833002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	• ——	10000	10000	46700	48000	103	115	70-130	3	9	
Magnesium	.ug/L		10000	10000	188000	190000	114	132	70-130	1	9	M1
Total Hardness by 2340B	ug/L	820 mg/L			892000	903000				1		

MATRIX SPIKE SAMPLE:	1262586						
		60153833003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Calcium	ug/L		10000	154000	88	70-130	
Magnesium	ug/L		10000	71800	96	70-130	
Total Hardness by 2340B	ug/L	618 mg/L		680000			



Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

QC Batch:

Cadmium

Lead

Zinc

MPRP/24472

EDA 000 (

Analysis Method:

EPA 200.8

QC Batch Method:

EPA 200.8

Analysis Description:

200.8 MET

Associated Lab Samples:

ples: 60154033001

METHOD BLANK: 1262561

Matrix: Water

Associated Lab Samples:

Date: 10/03/2013 02:06 PM

Parameter

60154033001

Units

ug/L

ug/L

ug/L

Blank Result	Reporting Limit	Analyzed	Qualifiers
0.14J	0.50	10/01/13 14:18	
0.051J	1.0	10/01/13 14:18	
ND	10.0	10/01/13 14:18	

LABORATORY CONTROL SAMPLE:	1262562					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	40	40.6	101	85-115	
Lead	ug/L	40	39.9	100	85-115	
Zinc	ua/L	100	107	107	85-115	

MATRIX SPIKE & MATRIX SF	PIKE DUPLICAT	E: 12625	63		1262564							
	601	153765002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium	ug/L	ND	40	40	41.0	41.3	102	103	70-130	1	20	
Lead	ug/L	ND	40	40	42.8	43.1	105	106	70-130	1	20	
Zinc	ug/L	41.6	100	100	142	143	100	102	70-130	1	20	

MATRIX SPIKE SAMPLE:	1262565						
		60154032002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	0.19J	40	41.3	103	70-130	
Lead	ug/L	3.9	40	45.7	105	70-130	
Zinc	ug/L	4.5J	100	105	101	70-130	





Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

QC Batch:

MPRP/24495

Analysis Method:

EPA 200.8

QC Batch Method:

EPA 200.8

Analysis Description:

200.8 MET Dissolved

Associated Lab Samples:

METHOD BLANK: 1263020

Matrix: Water

Associated Lab Samples:

Date: 10/03/2013 02:06 PM

Cadmium, Dissolved Lead, Dissolved

Zinc, Dissolved

60154033001

60154033001

Blank Result	Reporting Limit	Analyzed	Qualifiers
 0.14J	0.50	10/01/13 16:06	
ND	1.0	10/01/13 16:06	
1.5J	10.0	10/01/13 16:06	

LABORATORY	CONTROL SAMPLE	: 1

Parameter

ug/L

ug/L

ug/L

Units

Parameter Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium, Dissolved	ug/L	40	41.2	103	85-115	
Lead, Dissolved	ug/L	40	40.0	100	85-115	
Zinc, Dissolved	ug/L	100	113	113	85-115	

1263022

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	

,	12	Ra	เกว	,

	60	153808001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Cadmium, Dissolved	ug/L	ND ND	40	40	39.0	38.6	97	96	70-130	1	20	
Lead, Dissolved	ug/L	ND	40	40	42.4	42.0	106	105	70-130	1	20	
Zinc, Dissolved	ug/L	53.5	100	100	147	148	93	94	70-130	1	20	



Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

QC Batch:

WET/43715

Analysis Method:

Analysis Description:

SM 2540C

QC Batch Method: SM 2540C 2540C Total Dissolved Solids

Associated Lab Samples:

Matrix: Water

Associated Lab Samples:

METHOD BLANK: 1263116

60154033001

60154033001

Blank Result Reporting Limit

Analyzed

Qualifiers

Total Dissolved Solids

mg/L

mg/L

mg/L

mg/L

ND

10/01/13 15:09 5.0

97

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

1263117

Units

Units

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Total Dissolved Solids

1000

968

4050

325

80-120

SAMPLE DUPLICATE:

1263118

Parameter

Parameter

60154137001 Units Result

Dup Result

RPD 1

2

Max RPD

Qualifiers 17

SAMPLE DUPLICATE: 1263119

Total Dissolved Solids

60154003003

4090

Dup Result

RPD

Max RPD

Qualifiers

Total Dissolved Solids

Date: 10/03/2013 02:06 PM

Result 318

17

REPORT OF LABORATORY ANALYSIS

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Project:

QC Batch:

NATIONAL UAO (NATIONAL)

60154033001

Pace Project No.:

60154033

Parameter

Parameter

WET/43698

Analysis Method:

SM 2540D

QC Batch Method: Associated Lab Samples:

SM 2540D

Analysis Description:

2540D Total Suspended Solids

METHOD BLANK: 1262696

Matrix: Water

Associated Lab Samples:

60154033001

Błank

Reporting Limit

Analyzed

Qualifiers

Total Suspended Solids

mg/L

Units

Result ND

5.0 09/30/13 11:16

SAMPLE DUPLICATE:

1262697

Units

60153912004 Result

Dup Result

RPD

Max **RPD**

Qualifiers

Total Suspended Solids

mg/L

392

272

36

25 D6

SAMPLE DUPLICATE: 1262698

Parameter

60154032001 Result

Dup Result

RPD

Max RPD

Qualifiers

Total Suspended Solids

Date: 10/03/2013 02:06 PM

Units mg/L

9.0

8.0

12

25

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 (913)599-5665

QUALITY CONTROL DATA

Project: .

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

QC Batch:

WET/43727

Analysis Method:

60153995001

Result

SM 4500-H+B

QC Batch Method:

SM 4500-H+B

Analysis Description:

4500H+B pH

Associated Lab Samples: 60154033001

SAMPLE DUPLICATE: 1263398

Units

Dup Result

RPD

Max RPD

Qualifiers

Parameter pH at 25 Degrees C

Date: 10/03/2013 02:06 PM

Std. Units

5.6

5.7

5 H6





Project:

QC Batch:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

WETA/26453

Analysis Method:

EPA 300.0

EPA 300.0

Analysis Description:

300.0 IC Anions

QC Batch Method: Associated Lab Samples:

60154033001

Matrix: Water

Associated Lab Samples:

METHOD BLANK: 1264161 60154033001

Blank Result

Reporting

Limit

Qualifiers

Parameter Sulfate

Sulfate

mg/L

ND

1.0 10/02/13 21:05

Analyzed

LABORATORY CONTROL SAMPLE:

1264162

Units

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter

Date: 10/03/2013 02:06 PM

mg/L

5

4.9

99

90-110

REPORT OF LABORATORY ANALYSIS

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Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

QC Batch:

WETA/3183

Analysis Method:

SM 5310C

QC Batch Method: SM 5310C

Analysis Description:

5310C Total Organic Carbon

Associated Lab Samples:

METHOD BLANK: 43192

Matrix: Water

Associated Lab Samples:

60154033001

60154033001

Blank

Reporting Limit

Analyzed

Qualifiers

Total Organic Carbon

mg/L

Units

Units

Result ND

0.50 10/03/13 10:29

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Parameter

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Total Organic Carbon

Total Organic Carbon

Date: 10/03/2013 02:06 PM

mg/L

10

10.1

43195

101 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

MSD

MS

MSD

MS % Rec

MSD % Rec % Rec Limits

Max RPD RPD Qual

60154033001 Units Result

MS Spike

Spike Conc.

Result Result

99

100

mg/L

Conc. 0.86

10.1 10.1 10.8

11.0

80-120

20

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

60154033

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-D Pace Analytical Services - Dallas
PASI-K Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

Date: 10/03/2013 02:06 PM

B Analyte was detected in the associated method blank.

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

NATIONAL UAO (NATIONAL)

Pace Project No.:

Date: 10/03/2013 02:06 PM

60154033

_ab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154033001	10446/NAT NE	EPA 200.7	MPRP/24477	EPA 200.7	ICP/19061
60154033001	10446/NAT NE	EPA 200.8	MPRP/24472	EPA 200.8	ICPM/2535
601 54 033001	10446/NAT NE	EPA 200.8	MPRP/24495	EPA 200.8	ICPM/2537
301 54 033001	10446/NAT NE	SM 2540C	WET/43715		
60154033001	10446/NAT NE	SM 2540D	WET/43698		
60154033001	10446/NAT NE	SM 2540F	WET/43649		
60154033001	10446/NAT NE	SM 4500-H+B	WET/43727		
60154033001	10446/NAT NE	EPA 300.0	WETA/26453		
60154033001	10446/NAT NE	SM 5310C	WETA/3183		



Sample Condition Upon Receipt

WO#:60154033

Client Name: Doe Run					Optional
Courier: Fed Ex V UPS USPS C	ient Commercial	Pace □	Other [Proj Due Date:
Tracking #: 7967 6702 8344	Pace Shipping L	abel Used?	Yes 🗆 No	Z	Proj Name:
Custody Seal on Cooler/Box Present: Yes	No □ Seals inta	ct: Yes	No 🗆		
	bble Bags □ F	Foam 🗆	None 🗆	Other VIZE	LC.
Thermometer Used: 112 / T-194	Type of Ice: We		1		ce, cooling process has begun.
Cooler Temperature; 3.5		(circle one)	þ	ate and initials	of person examining
Temperature should be above freezing to 6°C				Ontents:	16.01
Chain of Custody present:	Maryes □No I	□N/A 1.			
Chain of Custody filled out:	Øyes □No I	DNA 2.			
Chain of Custody relinquished:	Myes □No I	□N/A 3.	Edward Colors Co		
Sampler name & signature on COC:	dyes □No	□N/A 4.			
Samples arrived within holding time:	□ Yes □ No	□N/A 5.			
Short Hold Time analyses (<72hr):	dyes □No	□NA 6. Se	H sol ph		
Rush Turn Around Time requested:	□Yes Mo	DNA 7.			
Sufficient volume:	⊠Yes □No	□N/A 8.		***********************	
Correct containers used:	Ľyes □No	□N⁄A			<u> </u>
Pace containers used:	∐yes □No	□N/A 9.			
Containers intact:	∐Yes □No	□N/A 10.			
Unpreserved 5035A soils frozen w/in 48hrs?	□Yes □No	ZN/A 11.			
Filtered volume received for dissolved tests?	□Yes □No	N/A 12.			
Sample labels match COC:	d√Yes □No	□N/A			
Includes date/time/ID/analyses Mat	rix: WT	13.			
All containers needing preservation have been chec	ked. Leyes □No	□N/A			
All containers needing preservation are found to be compliance with EPA recommendation.	in	□N/A 14.			
Exceptions: VOA, coliform, OO, O&G, WI-DRO (water), dyes 🗆 No	Initial w			of added
Trip Blank present:	□Yes □No				
Pace Trip Blank lot # (if purchased):		15.			
Headspace in VOA vials (>6mm):	□Yes □No	N/A			
		16.			
Project sampled in USDA Regulated Area:	□Yes □No	7	st State:		
Client Notification/ Resolution:	Copy COC to Client?	Y / N	Field Data R	Required? Y	/ N
Person Contacted:	Date/Time:				
Comments/ Resolution:					
				00 00 00 00 00 00 00 00 00 00 00 00 00	
Jami Church			9/26/13	-	
Project Manager Review.	AMARIAN WARANCE CONTROL CONTRO	Date			

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Gustody is a LEGAL DOCUMENT. All relevant fields must be completed accurately,

DOE RUN

Section		Section					Sect																	
	d Client Information:	Report		roject Info			Atten	-	-	-	n: ly Si	ande	ra	-				7		- 1		-		7
Compar		Copy	-	Amy S	anders		-	-	-		The			in C	om	pani	V	REGULATORY AG	ENCY		Page:	1	of	1
700103	PO BOX 300						Addr				Box							THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	GROUND WA	TER				
Email T	o: asanders@doerun.com	Purch	ase O	rder No.:			Pace	Quot			2000						- Annaham	_ UST _	RCRA		dage.			
Phone:	(573) 689-4535 Fax: (573) 244-8179	Projec	t Nam	10: N	ational UAC	(Nationa	Pace	Proje		-				-		-		Site Location		1111111	COC#:	140	-	4033
	' '	Project Name: National UAO (National) Project Number:					Mana Pace		10#			-	_		-	-		STATE:	МО			Y	DIS.	70 /-
Reques	ted Due Date/TAT: 5 To 7 Days	i-rojac	A NON	1001.										,A					sted Analy	sis Filtere	d (Y/N)			- Control of the Cont
-	Section C	_	T	T							200			_										
	Required Sample Information Valid Matrix Code	15	E 6	C	OLLECTE	DATE/T	ME				Bot	ties	/Pn	050	rvat	ives	-	NNNNNNN	IN IN IN I	NININ	NINI	4 14	1	8
	MATRIX CO		c=COMP)		OSITE START	COMPOSI	TE END /	*				-	10	5		1	o'	*See Additio	nal Com	ments B	elow		. ?	5
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	0.4451515	- 1	(see valid					8	CONTAINERS	250 mL Unpreserved	500 mL Unpreserved	70	Con H CO	Aminer Glass	250 ml. Plastic H ₂ SU	ZnaciliaOH	Glass						1	ă l
	SAMPLE ID	- 1		1				PA	S	ş	8	2	11		2 4		复						1	6
	Sample IDs MUST BE UNIQUE	18	CODE					TEMP AT	FC	g S	di-	L Unpreserved	250 ml. Nitric		4	2 2	A.m.	Ana	lysis '	est	1		i	
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